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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/656,098	09/04/2003	Hiroshi Kita	990788D2/HG	9919

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FRISHAUF, HOLTZ, GOODMAN & CHICK, PC  
220 Fifth Avenue  
16TH Floor  
NEW YORK, NY 10001-7708

EXAMINER
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YAMNITZKY, MARIE ROSE

ART UNIT	PAPER NUMBER
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1774

DATE MAILED: 07/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/656,098

Applicant(s)

KITA ET AL.

Examiner

Marie R. Yamnitzky

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's amendment filed on May 16, 2006, which amends the specification, has been entered.

2. Claims 1-13 are pending.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. The rejection of claims 1-13 under 35 U.S.C. 112, second paragraph, as being unclear in light of the specification, as set forth in the Office action mailed January 18, 2006, is overcome by applicant's amendment of the specification.

4. Claims 1 and 13 stand rejected under 35 U.S.C. 102(b) as being anticipated by Inoue et al. (US 5,635,308) for reasons of record in the Office action mailed September 01, 2005.

5. Claims 1 and 13 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue et al. (US 5,635,308) for reasons of record in the Office action mailed September 01, 2005.

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6. Claims 2-7 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka (US 5,717,289) in view of Inoue et al. (US 5,635,308) for reasons of record in the Office action mailed September 01, 2005.

7. Claims 8-12 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue et al. (US 5,635,308) in view of JP 10-025472 for reasons of record in the Office action mailed September 01, 2005.

8. Applicant's arguments filed May 16, 2006 have been fully considered but they are not persuasive.

With respect to the rejection under 35 U.S.C. 112, 2<sup>nd</sup> paragraph, the rejection is overcome by applicant's amendment. However, the examiner provides the additional remarks with respect to applicant's arguments. The claims must be clear in light of the specification. In the present case, applicant originally provided specific examples in the specification which were not within the scope of the claims if one gives the claim terminology conventional meanings, but the specification did not provide a clear alternative definition of the claim terminology (i.e. clear alternative to conventional meanings). The apparent conflict between the conventional meanings of the claim terminology and the examples in the specification that were said to be within the scope of the claimed formula raised a question as to the scope of compounds covered by the claimed formula.

With respect to the prior art rejections, some of applicant's arguments are contradictory to the original disclosure, and some of applicant's arguments are contradictory within the response and confusing.

The examiner acknowledges that in the section of the Office action mailed January 18, 2006 which addressed applicant's prior arguments, the examiner mischaracterized the biaryl groups of the compound of formula A-16 in the present specification as 9,9'-bianthracene-10,10'-diyl groups. As correctly noted in the arguments filed May 16, 2006, the biaryl groups of the compound of formula A-16 are actually 9,9'-bianthracene-10-yl groups. There is no additional substituent at the 10' position of the bianthracene group. In contrast, the 9,9'-bianthracene compound of Inoue's Compound No. VII-21 is substituted at both the 10 and 10' positions. However, this difference does not place Inoue's 9,9'-bianthracene group outside the scope of a biaryl group having a bond capable of giving internal rotational isomerism. The 9,9'-bianthracene-10,10'-diyl group of Inoue's Compound No. VII-21 and the 9,9'-bianthracene-10-yl groups of the compound of present formula A-16 both contain the 9,9'-bianthracene structure represented by the sixth formula on page 25. Based on the last paragraph on page 24, the 9,9'-bianthracene structure represented by the sixth formula on page 25 provides the basic skeleton structure of a substituent having a biaryl group which has the axis capable of given the internal rotational isomerism. This basic skeleton may be substituted, but substitution is not required. Based on teachings in the last paragraph on page 24 and the sixth formula on page 25, a 9,9'-bianthracene-10-yl group or a 9,9'-bianthracene-10,10'-diyl group would equally meet the

limitations of a biaryl group having a bond capable of giving internal rotational isomerism since both groups contain the 9,9'-bianthracene structure of the sixth formula on page 25.

Applicant argues that it is known that free rotation is inhibited about the 9,9'-bond of 9,9'-bianthracene, so that the anthracene nuclei are not coplanar, but that the mirror images are superimposable and therefore enantiomerism is impossible. Based on this argument, it appears that the sixth formula shown on page 25 should not have been included as an example of a basic skeleton structure of a substituent having a biaryl group having an axis capable of giving internal rotational isomerism.

With respect to the compound of present formula A-16, applicant argues that all biaryl groups in the compound are 9,9'-bianthracene-10-yl groups, that free rotation about the 9,9'-bond is hindered, and mirror images that are not superimposable exist. With respect to a 9,9'-bianthracene-10,10'-yl group such as in Inoue's Compound No. VII-21, applicant argues that free rotation is hindered about the 9,9'-bond but that the mirror images are superimposable. It is not clear to the examiner why/how the hindrance of free rotation about the 9,9'-bond in a 9,9'-bianthracene-10-yl group results in non-superimposable images while the hindrance of free rotation about the 9,9'-bond in a 9,9'-bianthracene group or a 9,9'-bianthracene-10,10'-yl group results in superimposable images; the 9,9'-bianthracene structure, per se, of each group is the same.

The examiner also respectfully disagrees with applicant's arguments regarding the teachings of Shi et al. Applicant appears to confuse how the structure of a compound can be

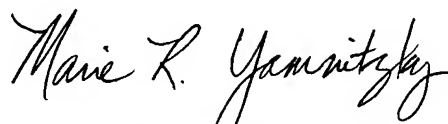
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depicted on paper versus the actual structure of a compound as it exists in three-dimensional space.

9. Any inquiry concerning this communication should be directed to Marie R. Yamnitzky at telephone number (571) 272-1531. The examiner works a flexible schedule but can generally be reached at this number from 6:30 a.m. to 4:00 p.m. Monday, Tuesday, Thursday and Friday, and every other Wednesday from 6:30 a.m. to 3:00 p.m.

The current fax number for all official faxes is (571) 273-8300. (Unofficial faxes to be sent directly to examiner Yamnitzky can be sent to (571) 273-1531.)

MRY  
July 13, 2006



**MARIE YAMNITZKY  
PRIMARY EXAMINER**

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